

# SEQUENCE LISTING

<110> Hodge, Martin R.  
 <120> Novel IL-9/IL-2 Receptor-Like Molecules  
 and Uses Thereof  
 <130> 5800-17A  
 <150> US 09/313,913  
 <151> 1999-05-18  
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atggatttct gagaaagaag ccgaaacaga aggcccgtgg gagtcagc atg ccg cgt	357
Met Pro Arg	
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ggc tgg gcc gcc ccc ctg ctc ctg ctg ctg ctc cag gga ggc tgg ggc	405
Gly Trp Ala Ala Pro Leu Leu Leu Leu Leu Leu Gln Gly Gly Trp Gly	
5 10 15	
tgc ccc gac ctc gtc tgc tac acc gat tac ctc cag acg gtc atc tgc	453
Cys Pro Asp Leu Val Cys Tyr Thr Asp Tyr Leu Gln Thr Val Ile Cys	
20 25 30 35	
atc ctg gaa atg tgg aac ctc cac ccc agc acg ctc acc ctt acc tgg	501
Ile Leu Glu Met Trp Asn Leu His Pro Ser Thr Leu Thr Leu Thr Trp	
40 45 50	
caa gac cag tat gaa gag ctg aag gac gag gcc acc tcc tgc agc ctc	549
Gln Asp Gln Tyr Glu Glu Leu Lys Asp Glu Ala Thr Ser Cys Ser Leu	
55 60 65	
cac agg tcg gcc cac aat gcc acg cat gcc acc tac acc tgc cac atg	597
His Arg Ser Ala His Asn Ala Thr His Ala Thr Tyr Thr Cys His Met	
70 75 80	
gat gta ttc cac ttc atg gcc gac gac att ttc agt gtc aac atc aca	645

Asp	Val	Phe	His	Phe	Met	Ala	Asp	Asp	Ile	Phe	Ser	Val	Asn	Ile	Thr	
85						90					95					
gac	cag	tct	ggc	aac	tac	tcc	cag	gag	tgt	ggc	agc	ttt	ctc	ctg	gct	693
Asp	Gln	Ser	Gly	Asn	Tyr	Ser	Gln	Glu	Cys	Gly	Ser	Phe	Leu	Leu	Ala	
100					105					110					115	
gag	agc	atc	aag	ccg	gct	ccc	cct	ttc	aac	gtg	act	gtg	acc	ttc	tca	741
Glu	Ser	Ile	Lys	Pro	Ala	Pro	Pro	Phe	Asn	Val	Thr	Val	Thr	Phe	Ser	
				120					125					130		
gga	cag	tat	aat	atc	tcc	tgg	cgc	tca	gat	tac	gaa	gac	cct	gcc	ttc	789
Gly	Gln	Tyr	Asn	Ile	Ser	Trp	Arg	Ser	Asp	Tyr	Glu	Asp	Pro	Ala	Phe	
			135					140					145			
tac	atg	ctg	aag	ggc	aag	ctt	cag	tat	gag	ctg	cag	tac	agg	aac	cgg	837
Tyr	Met	Leu	Lys	Gly	Lys	Leu	Gln	Tyr	Glu	Leu	Gln	Tyr	Arg	Asn	Arg	
		150					155					160				
gga	gac	ccc	tgg	gct	gtg	agt	ccg	agg	aga	aag	ctg	atc	tca	gtg	gac	885
Gly	Asp	Pro	Trp	Ala	Val	Ser	Pro	Arg	Arg	Lys	Leu	Ile	Ser	Val	Asp	
	165					170					175					
tca	aga	agt	gtc	tcc	ctc	ctc	ccc	ctg	gag	ttc	cgc	aaa	gac	tcg	agc	933
Ser	Arg	Ser	Val	Ser	Leu	Leu	Pro	Leu	Glu	Phe	Arg	Lys	Asp	Ser	Ser	
180					185					190					195	
tat	gag	ctg	cag	gtg	cgg	gca	ggg	ccc	atg	cct	ggc	tcc	tcc	tac	cag	981
Tyr	Glu	Leu	Gln	Val	Arg	Ala	Gly	Pro	Met	Pro	Gly	Ser	Ser	Tyr	Gln	
				200					205					210		
ggg	acc	tgg	agt	gaa	tgg	agt	gac	ccg	gtc	atc	ttt	cag	acc	cag	tca	1029
Gly	Thr	Trp	Ser	Glu	Trp	Ser	Asp	Pro	Val	Ile	Phe	Gln	Thr	Gln	Ser	
			215					220					225			
gag	gag	tta	aag	gaa	ggc	tgg	aac	cct	cac	ctg	ctg	ctt	ctc	ctc	ctg	1077
Glu	Glu	Leu	Lys	Glu	Gly	Trp	Asn	Pro	His	Leu	Leu	Leu	Leu	Leu	Leu	
		230					235					240				
ctt	gtc	ata	gtc	ttc	att	cct	gcc	ttc	tgg	agc	ctg	aag	acc	cat	cca	1125
Leu	Val	Ile	Val	Phe	Ile	Pro	Ala	Phe	Trp	Ser	Leu	Lys	Thr	His	Pro	
		245				250					255					
ttg	tgg	agg	cta	tgg	aag	aag	ata	tgg	gcc	gtc	ccc	agc	cct	gag	cgg	1173
Leu	Trp	Arg	Leu	Trp	Lys	Lys	Ile	Trp	Ala	Val	Pro	Ser	Pro	Glu	Arg	
260					265					270					275	
ttc	ttc	atg	ccc	ctg	tac	aag	ggc	tgc	agc	gga	gac	ttc	aag	aaa	tgg	1221
Phe	Phe	Met	Pro	Leu	Tyr	Lys	Gly	Cys	Ser	Gly	Asp	Phe	Lys	Lys	Trp	
				280					285					290		
gtg	ggt	gca	ccc	ttc	act	ggc	tcc	agc	ctg	gag	ctg	gga	ccc	tgg	agc	1269
Val	Gly	Ala	Pro	Phe	Thr	Gly	Ser	Ser	Leu	Glu	Leu	Gly	Pro	Trp	Ser	
			295					300					305			
cca	gag	gtg	ccc	tcc	acc	ctg	gag	gtg	tac	agc	tgc	cac	cca	cca	cgg	1317
Pro	Glu	Val	Pro	Ser	Thr	Leu	Glu	Val	Tyr	Ser	Cys	His	Pro	Pro	Arg	



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<210> 2

<211> 538

<212> PRT

<213> Homo sapiens IL-2/IL-9 Receptor Like

<400> 2

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Gly Trp Gly Cys Pro Asp Leu Val Cys Tyr Thr Asp Tyr Leu Gln Thr  
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Val Ile Cys Ile Leu Glu Met Trp Asn Leu His Pro Ser Thr Leu Thr  
35 40 45  
Leu Thr Trp Gln Asp Gln Tyr Glu Glu Leu Lys Asp Glu Ala Thr Ser  
50 55 60  
Cys Ser Leu His Arg Ser Ala His Asn Ala Thr His Ala Thr Tyr Thr  
65 70 75 80  
Cys His Met Asp Val Phe His Phe Met Ala Asp Asp Ile Phe Ser Val  
85 90 95  
Asn Ile Thr Asp Gln Ser Gly Asn Tyr Ser Gln Glu Cys Gly Ser Phe  
100 105 110  
Leu Leu Ala Glu Ser Ile Lys Pro Ala Pro Pro Phe Asn Val Thr Val  
115 120 125  
Thr Phe Ser Gly Gln Tyr Asn Ile Ser Trp Arg Ser Asp Tyr Glu Asp  
130 135 140  
Pro Ala Phe Tyr Met Leu Lys Gly Lys Leu Gln Tyr Glu Leu Gln Tyr  
145 150 155 160  
Arg Asn Arg Gly Asp Pro Trp Ala Val Ser Pro Arg Arg Lys Leu Ile  
165 170 175  
Ser Val Asp Ser Arg Ser Val Ser Leu Leu Pro Leu Glu Phe Arg Lys  
180 185 190  
Asp Ser Ser Tyr Glu Leu Gln Val Arg Ala Gly Pro Met Pro Gly Ser  
195 200 205  
Ser Tyr Gln Gly Thr Trp Ser Glu Trp Ser Asp Pro Val Ile Phe Gln  
210 215 220  
Thr Gln Ser Glu Glu Leu Lys Glu Gly Trp Asn Pro His Leu Leu Leu  
225 230 235 240  
Leu Leu Leu Leu Val Ile Val Phe Ile Pro Ala Phe Trp Ser Leu Lys  
245 250 255  
Thr His Pro Leu Trp Arg Leu Trp Lys Lys Ile Trp Ala Val Pro Ser  
260 265 270  
Pro Glu Arg Phe Phe Met Pro Leu Tyr Lys Gly Cys Ser Gly Asp Phe  
275 280 285  
Lys Lys Trp Val Gly Ala Pro Phe Thr Gly Ser Ser Leu Glu Leu Gly  
290 295 300  
Pro Trp Ser Pro Glu Val Pro Ser Thr Leu Glu Val Tyr Ser Cys His  
305 310 315 320  
Pro Pro Arg Ser Pro Ala Lys Arg Leu Gln Leu Thr Glu Leu Gln Glu  
325 330 335  
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gaa ctt cag gac caa gag acc ttc tgc agc cta cac aag tct ggc cac Glu Leu Gln Asp Gln Glu Thr Phe Cys Ser Leu His Lys Ser Gly His 60 65 70	606
aac acc aca cat ata tgg tac acg tgc cat atg cgc ttg tct caa ttc Asn Thr Thr His Ile Trp Tyr Thr Cys His Met Arg Leu Ser Gln Phe 75 80 85	654
ctg tcc gat gaa gtt ttc att gtc aac gtg acg gac cag tct ggc aac Leu Ser Asp Glu Val Phe Ile Val Asn Val Thr Asp Gln Ser Gly Asn 90 95 100	702
aac tcc caa gag tgt ggc agc ttt gtc ctg gct gag agc atc aag cca Asn Ser Gln Glu Cys Gly Ser Phe Val Leu Ala Glu Ser Ile Lys Pro 105 110 115 120	750
gct ccc ccc ttg aac gtg act gtg gcc ttc tca gga cgc tat gat atc Ala Pro Pro Leu Asn Val Thr Val Ala Phe Ser Gly Arg Tyr Asp Ile 125 130 135	798
tcc tgg gac tca gct tat gac gaa ccc tcc aac tac gtg ctg aga ggc Ser Trp Asp Ser Ala Tyr Asp Glu Pro Ser Asn Tyr Val Leu Arg Gly 140 145 150	846
aag cta caa tat gag ctg cag tat cgg aac ctc aga gac ccc tat gct Lys Leu Gln Tyr Glu Leu Gln Tyr Arg Asn Leu Arg Asp Pro Tyr Ala 155 160 165	894
gtg agg ccg gtg acc aag ctg atc tca gtg gac tca aga aac gtc tct Val Arg Pro Val Thr Lys Leu Ile Ser Val Asp Ser Arg Asn Val Ser 170 175 180	942
ctt ctc cct gaa gag ttc cac aaa gat tct agc tac cag ctg cag atg Leu Leu Pro Glu Glu Phe His Lys Asp Ser Ser Tyr Gln Leu Gln Met 185 190 195 200	990
cgg gca gcg cct cag cca ggc act tca ttc agg ggg acc tgg agt gag Arg Ala Ala Pro Gln Pro Gly Thr Ser Phe Arg Gly Thr Trp Ser Glu 205 210 215	1038
tgg agt gac ccc gtc atc ttt cag acc cag gct ggg gag ccc gag gca Trp Ser Asp Pro Val Ile Phe Gln Thr Gln Ala Gly Glu Pro Glu Ala 220 225 230	1086
ggc tgg gac cct cac atg ctg ctg ctc ctg gct gtc ttg atc att gtc Gly Trp Asp Pro His Met Leu Leu Leu Leu Ala Val Leu Ile Ile Val 235 240 245	1134
ctg gtt ttc atg ggt ctg aag atc cac ctg cct tgg agg cta tgg aaa Leu Val Phe Met Gly Leu Lys Ile His Leu Pro Trp Arg Leu Trp Lys 250 255 260	1182
aag ata tgg gca cca gtg ccc acc cct gag agt ttc ttc cag ccc ctg Lys Ile Trp Ala Pro Val Pro Thr Pro Glu Ser Phe Phe Gln Pro Leu 265 270 275 280	1230

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Gly Pro Pro Arg Ser Tyr Leu Arg Gln Trp Val Val Arg Thr Pro Pro  
505 510 515 520

cct gtg gac agt gga gcc cag agc agc tagcatataa taaccagcta 1997  
Pro Val Asp Ser Gly Ala Gln Ser Ser  
525

tagtgagaag aggcctctga gcctggcatt tacagtgtga acatgtaggg gtgtgtgtgt 2057  
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tattggaatg ctaaattctc tacccaaagt tctaggccta cgagtgaatt ctcagtgtta 2177  
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<211> 529  
<212> PRT  
<213> Mus musculus

<400> 4  
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Ile Thr Cys Val Leu Glu Thr Arg Ser Pro Asn Pro Ser Ile Leu Ser  
35 40 45  
Leu Thr Trp Gln Asp Glu Tyr Glu Glu Leu Gln Asp Gln Glu Thr Phe  
50 55 60  
Cys Ser Leu His Lys Ser Gly His Asn Thr Thr His Ile Trp Tyr Thr  
65 70 75 80  
Cys His Met Arg Leu Ser Gln Phe Leu Ser Asp Glu Val Phe Ile Val  
85 90 95  
Asn Val Thr Asp Gln Ser Gly Asn Asn Ser Gln Glu Cys Gly Ser Phe  
100 105 110  
Val Leu Ala Glu Ser Ile Lys Pro Ala Pro Pro Leu Asn Val Thr Val  
115 120 125  
Ala Phe Ser Gly Arg Tyr Asp Ile Ser Trp Asp Ser Ala Tyr Asp Glu  
130 135 140  
Pro Ser Asn Tyr Val Leu Arg Gly Lys Leu Gln Tyr Glu Leu Gln Tyr  
145 150 155 160  
Arg Asn Leu Arg Asp Pro Tyr Ala Val Arg Pro Val Thr Lys Leu Ile  
165 170 175  
Ser Val Asp Ser Arg Asn Val Ser Leu Leu Pro Glu Glu Phe His Lys  
180 185 190  
Asp Ser Ser Tyr Gln Leu Gln Met Arg Ala Ala Pro Gln Pro Gly Thr  
195 200 205  
Ser Phe Arg Gly Thr Trp Ser Glu Trp Ser Asp Pro Val Ile Phe Gln  
210 215 220  
Thr Gln Ala Gly Glu Pro Glu Ala Gly Trp Asp Pro His Met Leu Leu  
225 230 235 240  
Leu Leu Ala Val Leu Ile Ile Val Leu Val Phe Met Gly Leu Lys Ile  
245 250 255  
His Leu Pro Trp Arg Leu Trp Lys Lys Ile Trp Ala Pro Val Pro Thr  
260 265 270  
Pro Glu Ser Phe Phe Gln Pro Leu Tyr Arg Glu His Ser Gly Asn Phe





Thr	His	Arg	Cys	Asn	Ile	Ser	Trp	Glu	Ile	Ser	Gln	Ala	Ser	His	Tyr
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Phe	Glu	Arg	His	Leu	Glu	Phe	Glu	Ala	Arg	Thr	Leu	Ser	Pro	Gly	His
				165					170						175
Thr	Trp	Glu	Glu	Ala	Pro	Leu	Leu	Thr	Leu	Lys	Gln	Lys	Gln	Glu	Trp
			180					185						190	
Ile	Cys	Leu	Glu	Thr	Leu	Thr	Pro	Asp	Thr	Gln	Tyr	Glu	Phe	Gln	Val
	195						200					205			
Arg	Val	Lys	Pro	Leu	Gln	Gly	Glu	Phe	Thr	Thr	Trp	Ser	Pro	Trp	Ser
210						215					220				
Gln	Pro	Leu	Ala	Phe	Arg	Thr	Lys	Pro	Ala	Ala	Leu	Gly	Lys	Asp	Thr
225					230					235					240
Ile	Pro	Trp	Leu	Gly	His	Leu	Leu	Val	Gly	Leu	Ser	Gly	Ala	Phe	Gly
				245					250						255
Phe	Ile	Ile	Leu	Val	Tyr	Leu	Leu	Ile	Asn	Cys	Arg	Asn	Thr	Gly	Pro
			260					265						270	
Trp	Leu	Lys	Lys	Val	Leu	Lys	Cys	Asn	Thr	Pro	Asp	Pro	Ser	Lys	Phe
	275						280					285			
Phe	Ser	Gln	Leu	Ser	Ser	Glu	His	Gly	Gly	Asp	Val	Gln	Lys	Trp	Leu
290						295					300				
Ser	Ser	Pro	Phe	Pro	Ser	Ser	Ser	Phe	Ser	Pro	Gly	Gly	Leu	Ala	Pro
305					310					315					320
Glu	Ile	Ser	Pro	Leu	Glu	Val	Leu	Glu	Arg	Asp	Lys	Val	Thr	Gln	Leu
				325					330						335
Leu	Leu	Gln	Gln	Asp	Lys	Val	Pro	Glu	Pro	Ala	Ser	Leu	Ser	Ser	Asn
			340					345						350	
His	Ser	Leu	Thr	Ser	Cys	Phe	Thr	Asn	Gln	Gly	Tyr	Phe	Phe	Phe	His
		355					360					365			
Leu	Pro	Asp	Ala	Leu	Glu	Ile	Glu	Ala	Cys	Gln	Val	Tyr	Phe	Thr	Tyr
	370					375					380				
Asp	Pro	Tyr	Ser	Glu	Glu	Asp	Pro	Asp	Glu	Gly	Val	Ala	Gly	Ala	Pro
385					390					395					400
Thr	Gly	Ser	Ser	Pro	Gln	Pro	Leu	Gln	Pro	Leu	Ser	Gly	Glu	Asp	Asp
				405					410						415
Ala	Tyr	Cys	Thr	Phe	Pro	Ser	Arg	Asp	Asp	Leu	Leu	Leu	Phe	Ser	Pro
			420					425					430		
Ser	Leu	Leu	Gly	Gly	Pro	Ser	Pro	Pro	Ser	Thr	Ala	Pro	Gly	Gly	Ser
	435						440					445			
Gly	Ala	Gly	Glu	Glu	Arg	Met	Pro	Pro	Ser	Leu	Gln	Glu	Arg	Val	Pro
	450					455					460				
Arg	Asp	Trp	Asp	Pro	Gln	Pro	Leu	Gly	Pro	Pro	Thr	Pro	Gly	Val	Pro
465					470					475					480
Asp	Leu	Val	Asp	Phe	Gln	Pro	Pro	Pro	Glu	Leu	Val	Leu	Arg	Glu	Ala
				485					490						495
Gly	Glu	Glu	Val	Pro	Asp	Ala	Gly	Pro	Arg	Glu	Gly	Val	Ser	Phe	Pro
			500					505					510		
Trp	Ser	Arg	Pro	Pro	Gly	Gln	Gly	Glu	Phe	Arg	Ala	Leu	Asn	Ala	Arg
		515					520						525		
Leu	Pro	Leu	Asn	Thr	Asp	Ala	Tyr	Leu	Ser	Leu	Gln	Glu	Leu	Gln	Gly
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Gln	Asp	Pro	Thr	His	Leu	Val									
545					550										

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 <212> PRT

<213> Mus musculus

<400> 6

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His	Leu	Glu	Cys	Phe	Tyr	Asn	Ser	Arg	Ala	Asn	Val	Ser	Cys	Met	Trp	35	40	45	
Ser	His	Glu	Glu	Ala	Leu	Asn	Val	Thr	Thr	Cys	His	Val	His	Ala	Lys	50	55	60	
Ser	Asn	Leu	Arg	His	Trp	Asn	Lys	Thr	Cys	Glu	Leu	Thr	Leu	Val	Arg	65	70	75	80
Gln	Ala	Ser	Trp	Ala	Cys	Asn	Leu	Ile	Leu	Gly	Ser	Phe	Pro	Glu	Ser	85	90	95	
Gln	Ser	Leu	Thr	Ser	Val	Asp	Leu	Leu	Asp	Ile	Asn	Val	Val	Cys	Trp	100	105	110	
Glu	Glu	Lys	Gly	Trp	Arg	Arg	Val	Lys	Thr	Cys	Asp	Phe	His	Pro	Phe	115	120	125	
Asp	Asn	Leu	Arg	Leu	Val	Ala	Pro	His	Ser	Leu	Gln	Val	Leu	His	Ile	130	135	140	
Asp	Thr	Gln	Arg	Cys	Asn	Ile	Ser	Trp	Lys	Val	Ser	Gln	Val	Ser	His	145	150	155	160
Tyr	Ile	Glu	Pro	Tyr	Leu	Glu	Phe	Glu	Ala	Arg	Arg	Arg	Leu	Leu	Gly	165	170	175	
His	Ser	Trp	Glu	Asp	Ala	Ser	Val	Leu	Ser	Leu	Lys	Gln	Arg	Gln	Gln	180	185	190	
Trp	Leu	Phe	Leu	Glu	Met	Leu	Ile	Pro	Ser	Thr	Ser	Tyr	Glu	Val	Gln	195	200	205	
Val	Arg	Val	Lys	Ala	Gln	Arg	Asn	Asn	Thr	Gly	Thr	Trp	Ser	Pro	Trp	210	215	220	
Ser	Gln	Pro	Leu	Thr	Phe	Arg	Thr	Arg	Pro	Ala	Asp	Pro	Met	Lys	Glu	225	230	235	240
Ile	Leu	Pro	Met	Ser	Trp	Leu	Arg	Tyr	Leu	Leu	Leu	Val	Leu	Gly	Cys	245	250	255	
Phe	Ser	Gly	Phe	Phe	Ser	Cys	Val	Tyr	Ile	Leu	Val	Lys	Cys	Arg	Tyr	260	265	270	
Leu	Gly	Pro	Trp	Leu	Lys	Thr	Val	Leu	Lys	Cys	His	Ile	Pro	Asp	Pro	275	280	285	
Ser	Glu	Phe	Phe	Ser	Gln	Leu	Ser	Ser	Gln	His	Gly	Gly	Asp	Leu	Gln	290	295	300	
Lys	Trp	Leu	Ser	Ser	Pro	Val	Pro	Leu	Ser	Phe	Phe	Ser	Pro	Ser	Gly	305	310	315	320
Pro	Ala	Pro	Glu	Ile	Ser	Pro	Leu	Glu	Val	Leu	Asp	Gly	Asp	Ser	Lys	325	330	335	
Ala	Val	Gln	Leu	Leu	Leu	Leu	Gln	Lys	Asp	Ser	Ala	Pro	Leu	Pro	Ser	340	345	350	
Pro	Ser	Gly	His	Ser	Gln	Ala	Ser	Cys	Phe	Thr	Asn	Gln	Gly	Tyr	Phe	355	360	365	
Phe	Phe	His	Leu	Pro	Asn	Ala	Leu	Glu	Ile	Glu	Ser	Cys	Gln	Val	Tyr	370	375	380	
Phe	Thr	Tyr	Asp	Pro	Cys	Val	Glu	Glu	Glu	Val	Glu	Glu	Asp	Gly	Ser	385	390	395	400
Arg	Leu	Pro	Glu	Gly	Ser	Pro	His	Pro	Pro	Leu	Leu	Pro	Leu	Ala	Gly	405	410	415	
Glu	Gln	Asp	Asp	Tyr	Cys	Ala	Phe	Pro	Pro	Arg	Asp	Asp	Leu	Leu	Leu	420	425	430	

Phe Ser Pro Ser Leu Ser Thr Pro Asn Thr Ala Tyr Gly Gly Ser Arg  
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 Ala Pro Glu Glu Arg Ser Pro Leu Ser Leu His Glu Gly Leu Pro Ser  
           450                          455                  460  
 Leu Ala Ser Arg Asp Leu Met Gly Leu Gln Arg Pro Leu Glu Arg Met  
 465                          470                  475                  480  
 Pro Glu Gly Asp Gly Glu Gly Leu Ser Ala Asn Ser Ser Gly Glu Gln  
                           485                  490                  495  
 Ala Ser Val Pro Glu Gly Asn Leu His Gly Gln Asp Gln Asp Arg Gly  
                           500                  505                  510  
 Gln Gly Pro Ile Leu Thr Leu Asn Thr Asp Ala Tyr Leu Ser Leu Gln  
                           515                  520                  525  
 Glu Leu Gln Ala Gln Asp Ser Val His Leu Ile  
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<210> 7  
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<400> 7

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 Cys Thr Cys Val Cys Leu Gly Val Ser Val Thr Gly Glu Gly Gln Gly  
                           35                          40                  45  
 Pro Arg Ser Arg Thr Phe Thr Cys Leu Thr Asn Asn Ile Leu Arg Ile  
                           50                          55                  60  
 Asp Cys His Trp Ser Ala Pro Glu Leu Gly Gln Gly Ser Ser Pro Trp  
 65                          70                          75                  80  
 Leu Leu Phe Thr Ser Asn Gln Ala Pro Gly Gly Thr His Lys Cys Ile  
                           85                          90                  95  
 Leu Arg Gly Ser Glu Cys Thr Val Val Leu Pro Pro Glu Ala Val Leu  
                           100                         105                 110  
 Val Pro Ser Asp Asn Phe Thr Ile Thr Phe His His Cys Met Ser Gly  
                           115                         120                 125  
 Arg Glu Gln Val Ser Leu Val Asp Pro Glu Tyr Leu Pro Arg Arg His  
                           130                         135                 140  
 Val Lys Leu Asp Pro Pro Ser Asp Leu Gln Ser Asn Ile Ser Ser Gly  
 145                         150                         155                 160  
 His Cys Ile Leu Thr Trp Ser Ile Ser Pro Ala Leu Glu Pro Met Thr  
                           165                         170                 175  
 Thr Leu Leu Ser Tyr Glu Leu Ala Phe Lys Lys Gln Glu Glu Ala Trp  
                           180                         185                 190  
 Glu Gln Ala Gln His Arg Asp His Ile Val Gly Val Thr Trp Leu Ile  
                           195                         200                 205  
 Leu Glu Ala Phe Glu Leu Asp Pro Gly Phe Ile His Glu Ala Arg Leu  
                           210                         215                 220  
 Arg Val Gln Met Ala Thr Leu Glu Asp Asp Val Val Glu Glu Glu Arg  
 225                         230                         235                 240  
 Tyr Thr Gly Gln Trp Ser Glu Trp Ser Gln Pro Val Cys Phe Gln Ala  
                           245                         250                 255  
 Pro Gln Arg Gln Gly Pro Leu Ile Pro Pro Trp Gly Trp Pro Gly Asn  
                           260                         265                 270  
 Thr Leu Val Ala Val Ser Ile Phe Leu Leu Leu Thr Gly Pro Thr Tyr  
           275                         280                 285



[illegible]